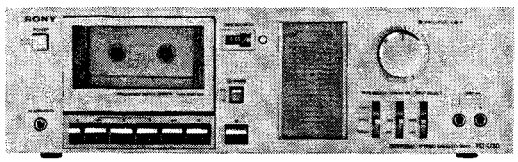
SONY®

STEREO CASSETTE DECK

TC-U30



OPERATING INSTRUCTIONS Page 2

Before operating the unit, please read this manual thoroughly.
This manual should be retained for future reference.

MODE D'EMPLOI Page 14

Avant toute opération, lire attentivement ce mode d'emploi.
Conserver ce manuel pour toute référence ultérieure.

BEDIENUNGSANLEITUNG Seite 26

Vor Inbetriebnahme lesen Sie bitte diese Bedienungsanleitung sorgfältig durch.
Bewahren Sie diese Anleitung zum späteren Nachschlagen gut auf.

MANUAL DE INSTRUCCIONES Página 38

Antes de manipular el aparato, lea usted este manual detenidamente.
Conserve este manual para futuras referencias.

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FEATURES

- Newly developed LED peak program meters enable the recording of programs making full use of the dynamic range of tapes.
- Dolby NR (Noise Reduction) system which reduces tape hiss noise.
- Auto play function available for automatic replay promptly after the tape is rewound.
- Three-way tape selector to obtain maximum tape characteristics.
- Timer-activated recording and playback function.
- DC servo-motor with built-in frequency generator for low wow and flutter and free from line voltage and frequency variations

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

For the Customers in the United Kingdom

Important
The wires in the mains lead are coloured in accordance with the following code:
Blue: Neutral
Brown: Live
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

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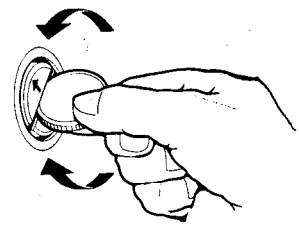
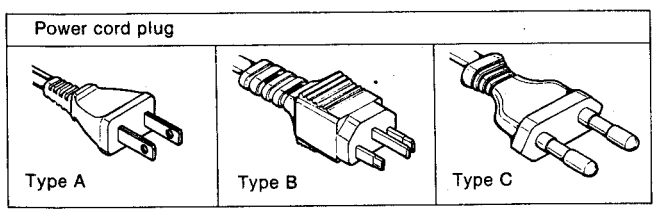
OPERATING VOLTAGE

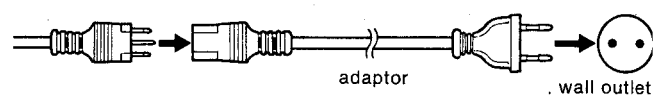
Before connecting the unit to the power source, check that the operating voltage of your unit is the same as the local power line voltage.
The model in European countries (type 1): operates on 220 V ac ~ (or 240 V ac ~ adjustable by authorized Sony personnel).
The model in the United Kingdom (type 2): operates on 240 V ac ~ (or 220 V ac ~ adjustable by authorized Sony personnel).
The model in other countries (type 3): operates on 110, 120, 220 or 240 V ac ~.
The voltage selector is located on the rear panel. If the selector must be reset, **disconnect the ac power cord** and turn the selector with a coin so that the arrow mark of the selector points to the proper voltage figure.



Notes on ac power cord
The three kinds of ac power cord plugs equipped with your tape deck are illustrated below:



A detachable power cord adaptor is supplied with the type B plug, and it permits a direct connection to an ac outlet in your house.



However, when making power connections among the amplifier, the program timer, and any equipment on the list below, this adaptor is not needed.

A line-up of Sony audio components and timers available
Tuner: ST-636, ST-333L/S
Tape deck: TC-U60, TC-U30
Receiver: STR-434L/S, STR-333L/S
Turntable: PS-636, PS-434, PS-333
Program timer: PT-79R, PT-59
Amplifier: TA-636, TA-535, TA-333

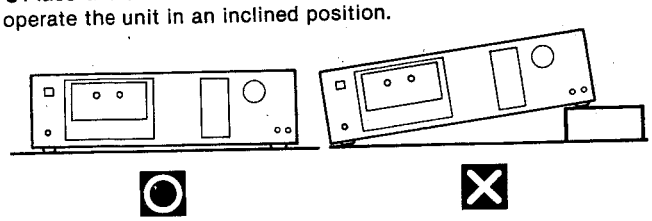
PRECAUTIONS

On safety

- Before operating the set, be sure that the operating voltage of your unit is identical with that of your local power supply.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

On installation

- Good air circulation is essential to prevent internal heat build-up in the unit. Place the unit in a location with sufficient air circulation.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust or mechanical vibration.
- Place the unit with the front panel facing toward you. Do not operate the unit in an inclined position.



On operation

- Press a function button fully so that it locks.
- To release any locked button, press the stop button. (To release the pause button, press the pause button again.) Never pull up a locked button forcibly.
- The record button cannot be pressed when :
  - There is no cassette in the cassette holder.
  - The tab on the cassette has been removed.

Never press the record button forcibly.

- Do not press the eject button while the tape is in motion. To take out the inserted cassette, first press the stop button and then press the eject button.

On head cleaning

The best performance of your unit is dependent on the periodic cleaning of the heads and all surfaces over which the tape travels.
Dirty heads and tape path cause :

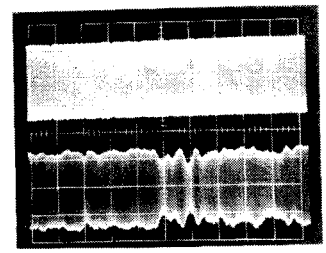
- Loss of high frequency response
- Loss of sound volume
- Sound drop-outs

Cleaning should be done every after 10 hours of operation.
For details, see "Maintenance" on page 11.

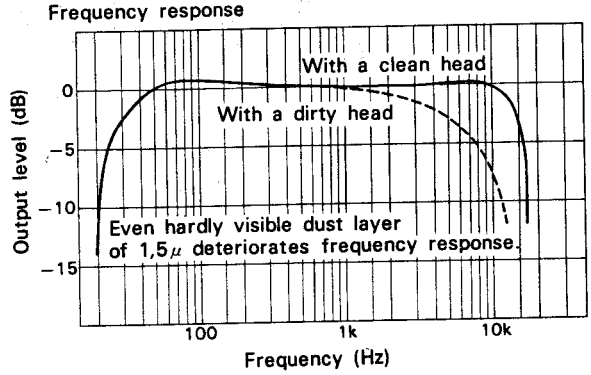
Playback waveform at 10 kHz

With a clean head

With a dirty head (The output level fluctuates.)

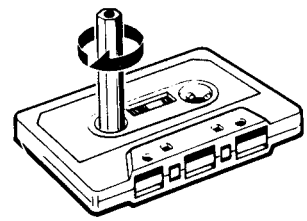


Frequency response



On cassette

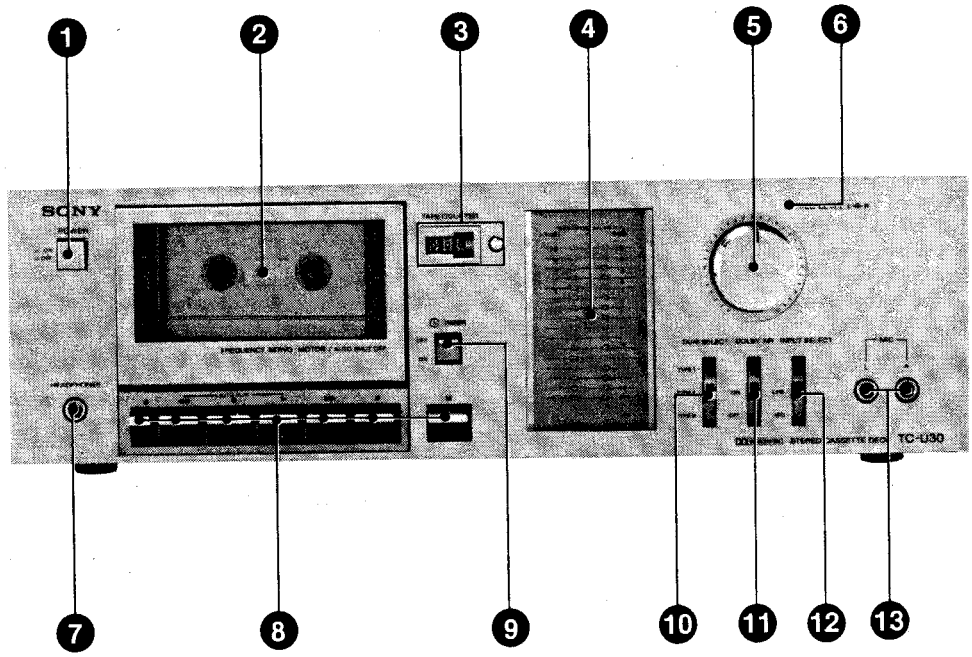
Before inserting a cassette, take up any slack in the tape to prevent it from becoming entangled around the capstan.



If you have any question or problem concerning your unit, please contact your nearest Sony service facility.

FUNCTION OF CONTROLS

The numbers in the photo are keyed to that of each control.



❶ POWER switch
This turns the power on or off. The lamp in the cassette holder and peak program meters will light up when the unit is turned on.

❷ Cassette holder

❸ TAPE COUNTER and reset button
The tape counter is used for numerical reference during recording and numerical indexing of recorded cassettes. To return the numbers to zero, press the reset button.

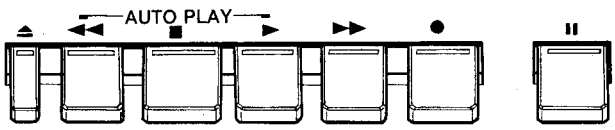
❹ LED peak program meters
The meters show the input peak level of each channel during recording, and recorded levels in the playback mode.
The peak program meters follow the transient peaks of occasional high level inputs that cannot be followed by conventional VU meters, assuring accurate recording level adjustment.

❺ REC LEVEL controls
These controls adjust the recording level. The inner knob is for the right channel and the outer for the left channel.

❻ Record indicator lamp
This lamp will illuminate when the record button is depressed.

❼ HEADPHONES jack
Headphones may be inserted to either monitor the input signals to be recorded or to listen to a recording in the playback mode.

❽ Function buttons



Eject button [⏏]: Press this button to open the cassette holder. Eject is non-operational in recording and playback modes. Pressing in fast-forward and rewind modes may damage the tape.
Rewind button [◀◀]: Press this button for rewind the tape. If you press the forward button while holding the rewind button pressed, this button will be released after rewind, and the playback will begin automatically.
See "Auto play" on page 10.
Stop button [■]: To stop the tape motion, press this button. When a tape is entirely wound in any operating mode, the engaged mode will be shut off automatically.
Forward button [▶]: Press this button for playing back the tape. Pressing this button together with the rewind button makes auto play and memory play possible.
For recording press this button while holding the record button pressed.
Fast-forward button [▶▶]: Press this button for fast winding of the tape.
Record button [●]: To adjust the recording level, press this button. To start recording, while holding this button pressed, press the forward button.
Pause button [▮▮]: To momentarily pause during recording or playback, press this button. To restart, press it again. Also use this button for smooth start of recording.
See "Recording" on page 7.

❾ TIMER switch
Automatic recording and playback at any desired time is possible using a commercially available timer.
See "Timer-activated recording and playback" on page 9.

❿ TAPE SELECT switch
Select the correct position for the tape to be used in both recording and playback modes.
See "Tape selector recommendations" on page 8.

⓫ DOLBY NR switch
For recording and playback with Dolby NR* (Noise Reduction) process, set this switch to ON. For recording and playback without Dolby NR process, set it to OFF.

* Through the Dolby NR system, tape hiss is reduced and signal-to-noise ratio is improved.
During recording low-level high-frequency signals, which are either partially or totally concealed by tape noise, are boosted ; thereby, allowing the recorded material to be heard above the tape hiss level. When playing back this recording, the reproduction level is lowered to the original input level. Simultaneously, the noise level which was mixed with the recorded material is also reduced in volume, eliminating much of the background noise from these low-level high-frequency passages.

"Dolby" and the double-D symbol are trade marks of Dolby Laboratories. Noise reduction system manufactured under license from Dolby Laboratories.

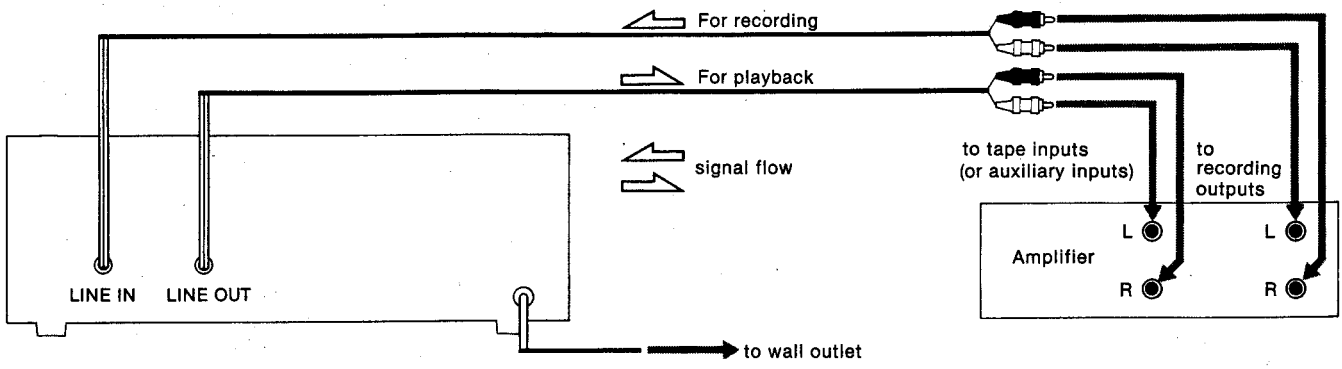
⓬ INPUT SELECT switch
For recording through MIC jacks, set this switch to the MIC position. For recording through LINE IN jacks, set it to the LINE position.

⓭ MIC jacks
Any low-impedance microphone equipped with a phone plug may be used. If your microphone is equipped with a mini plug, an adaptor for converting to phone plug is required.

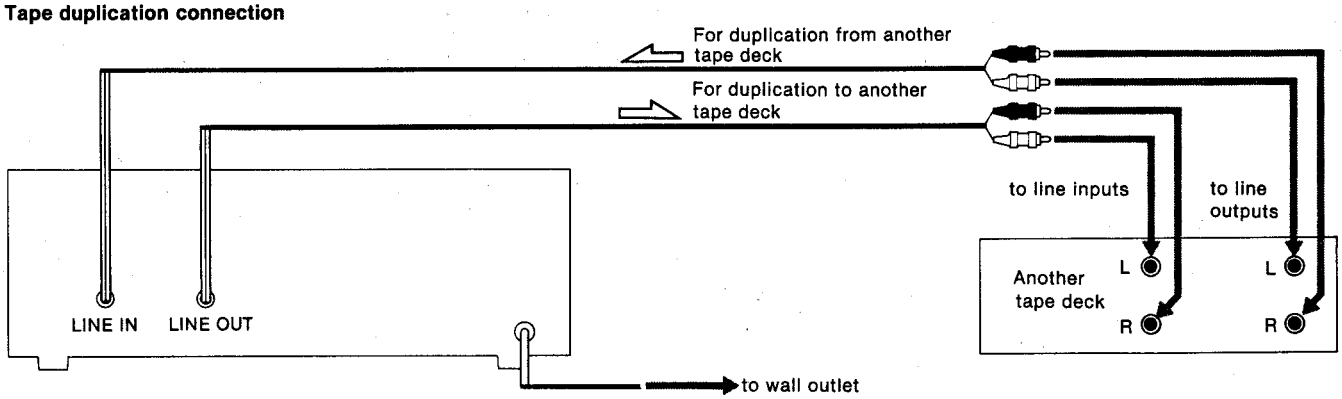
CONNECTIONS

- Turn off the amplifier before making connections.
- Be sure to insert the cable connectors firmly into the jacks. Loose connections may cause hum and noise.
- The red plug of the connecting cord should be connected to the right channel and the other plug to the left channel.

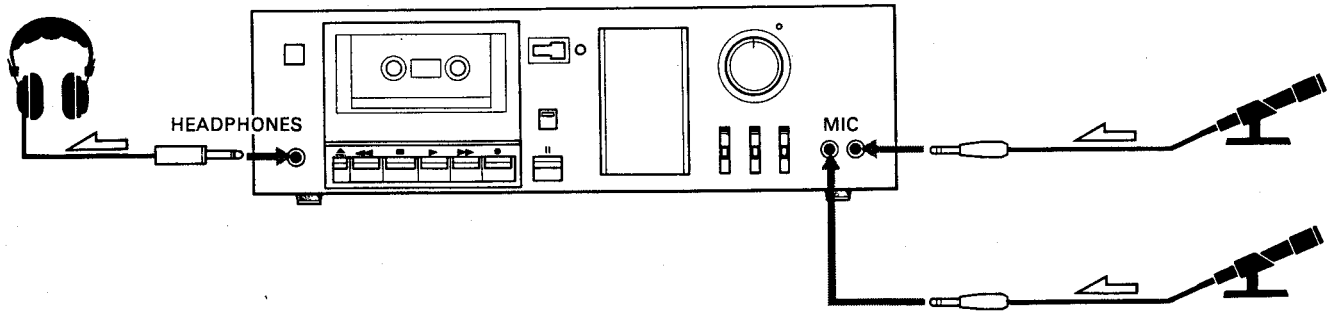
Amplifier connection



Tape duplication connection

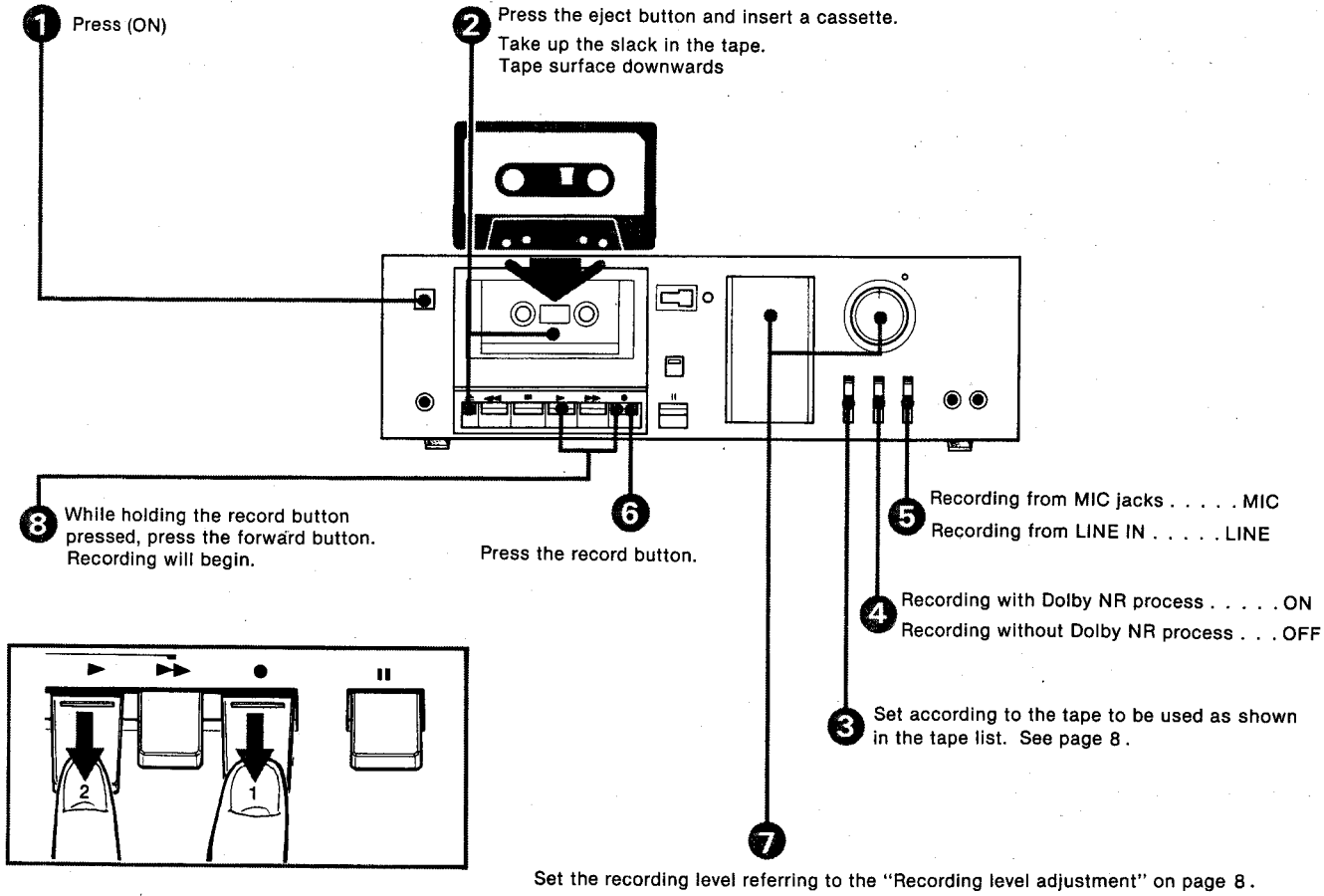


Connection on front panel



RECORDING

Follow the numbered diagram to begin recording.


1 Press (ON)
2 Press the eject button and insert a cassette.
Take up the slack in the tape.
Tape surface downwards
8 While holding the record button pressed, press the forward button. Recording will begin.
6 Press the record button.
5 Recording from MIC jacks . . . . . MIC
Recording from LINE IN . . . . . LINE
4 Recording with Dolby NR process . . . . . ON
Recording without Dolby NR process . . . OFF
3 Set according to the tape to be used as shown in the tape list. See page 8.
7 Set the recording level referring to the "Recording level adjustment" on page 8.

SMOOTHER RECORDING STARTS

Smoother starts are possible by using the pause button to begin recording. After step ❺ of the recording section, proceed as follows:

❻ Press and lock the pause button.
❼ While holding the record button pressed, press the forward button.
❽ Adjust the recording level.
❾ Just before you want to start recording, press the pause button again to start tape travel. The recording will then begin.

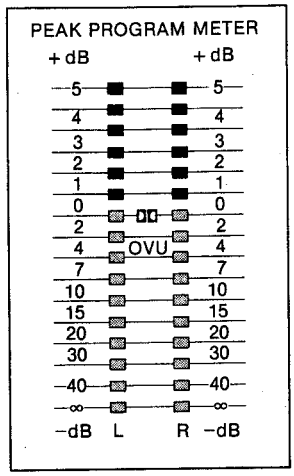
RECORDING NEW MATERIAL WHILE THE TAPE IS RUNNING

To change directly from play to record during playback mode, press the record button while holding the forward button pressed. This operation is useful for after-recording of new material or re-recording in your dissatisfied spot on a recorded tape.

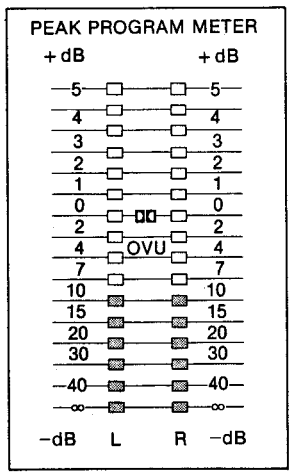
RECORDING LEVEL ADJUSTMENT

A high recording level is recommended to reduce annoying tape noise, but overloaded and distorted tapes could result if the level is too high. Recording level should be set at the maximum permissible for each type of tape. The higher the tape maximum output level is, the higher the recording level can be set, which provides the full dynamic range of the tape and a better signal-to-noise ratio. Note the general points on adjusting the recording level as follows.

Setting too high (distorted recording): The peak program meters deflect continuously to full scale.

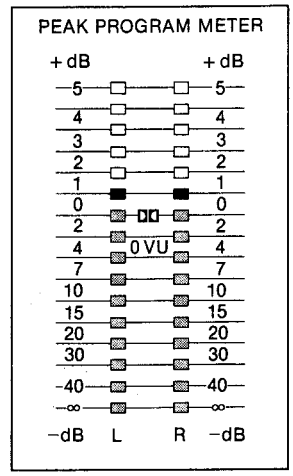


Setting too low (noisy recording): The peak program meters deflect only to about −10 dB.

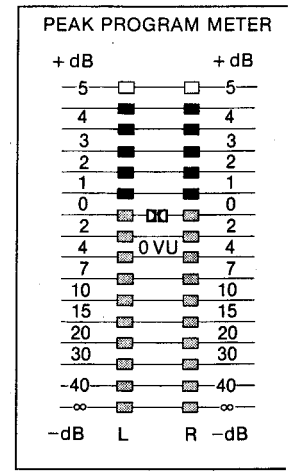


Proper setting (Good recording): The peak program meters deflec at the highest signal level passages to about **0 dB** for TYPE I tape (Sony AHF, BHF, CHF), about **+4 dB** for TYPE II or TYPE III tape (Sony CD-α, FeCr).

TYPE I



TYPE II or II



However, consideration has to be given to the fact that tape satur tion and distortion at higher frequencies occur at lower level When recording programs containing strong, sharp pulses, such a certain live programs, the level may be too high if adjusted in th way described, and distorted tapes could result. In such a cas set the recording level lower than usual.

The peak program meters may indicate differently in recording ar playback modes, but these small differences are not significant.

TAPE SELECTOR RECOMMENDATIONS

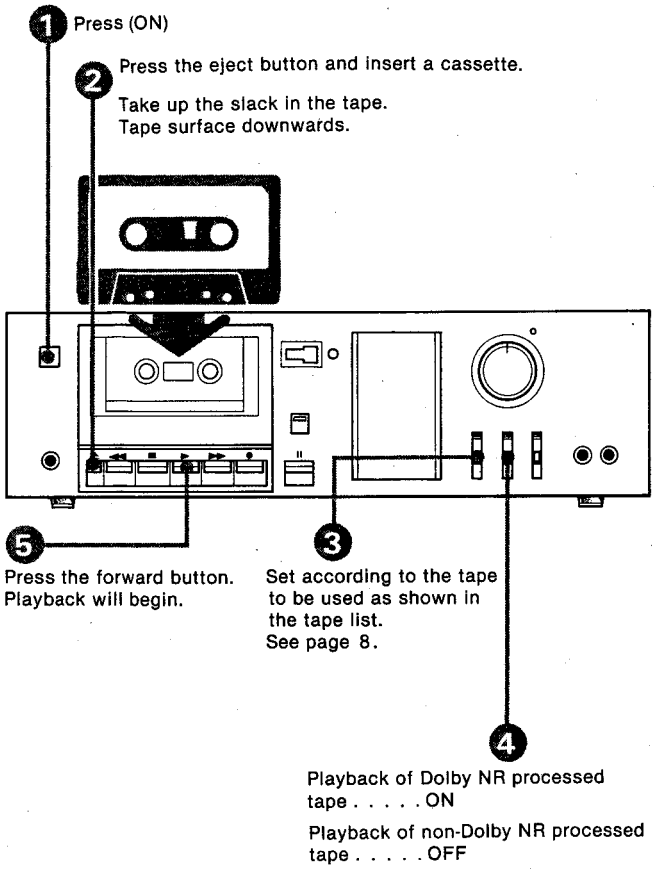
The following list shows our recommended settings, which hav been determined through critical listening tests and electrical cha acteristic measurements, on commercially available cassette These settings may be changed to adhere to your person preference.

For Sony cassettes, be sure to use the recommended settings t obtain the optimum tape characteristics.

Tapes (C-60 and C-90)	TAPE SELECT
AGFA: FERRO COLOUR BASF: LH super FUJI: FX-DUO MAXELL: SLN PHILIPS: FERRO SCOTCH: DYNARANGE	TYPE I
SONY: AHF, BHF, CHF AGFA: SUPER FERRO DYNAMIC BASF: ferro super LH I FUJI: FX-I MAXELL: UD, UD-XL I PHILIPS: SUPER FERRO-I SCOTCH: MASTER I TDK: SD	TYPE I
SONY: CD-α AGFA: STEREO CHROM BASF: chromdioxid FUJI: FX-II MAXELL: UD-XL II PHILIPS: CHROMIUM SCOTCH: MASTER II TDK: SA	TYPE II
SONY: FeCr AGFA: CARAT BASF: ferrochrom PHILIPS: FERRO CHROMIUM SCOTCH: MASTER III	TYPE III

PLAYBACK

Follow the numbered diagram to begin playback.

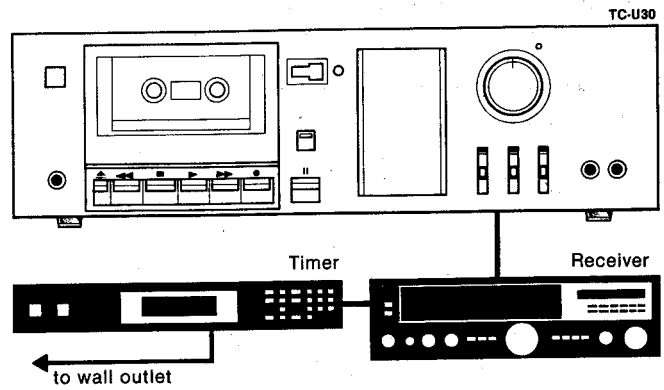

1 Press (ON)
2 Press the eject button and insert a cassette.
Take up the slack in the tape.
Tape surface downwards.
5 Press the forward button.
Playback will begin.
3 Set according to the tape to be used as shown in the tape list.
See page 8.
4 Playback of Dolby NR processed tape . . . . . ON
Playback of non-Dolby NR processed tape . . . . . OFF

ERASING

When the tape deck functions in recording mode, the erase head operates and any previously recorded material is automatically erased.
To erase the recorded contents without recording :
❶ Make sure that the tab of the cassette is intact or is replaced by plastic tape.
❷ Set the REC LEVEL controls fully to "0". (Disconnection of all of the inputs will result in a more complete erasure.)
❸ While holding the record button pressed, press the forward button.

TIMER-ACTIVATED RECORDING AND PLAYBACK

Automatic recording and playback at any desired time is possible using a commercially available timer.
Read the instruction manual of the timer carefully before using.



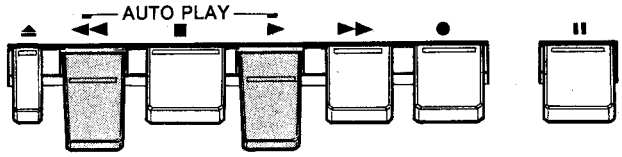
Recording
❶ Make power connection between the tape deck, receiver and timer.
Set the timer so that power is applied to the connected equipment.
❷ Turn on the receiver, and tune in the station of the program to be recorded.
❸ Turn on the tape deck and insert a cassette. Note that erasure-proof tab is intact or replaced by plastic tape.
❹ Set the controls for recording and adjust the recording level.
❺ Set the timer for the desired time. (At this stage, power is interrupted to all the equipment in link.)
Be sure to read the instruction under "Notes" for setting the time the equipment is turned off.
❻ Set the tape deck TIMER switch to ON.
❼ While holding the record button pressed, press the forward button. The timer is now ready for automatic start of recording at the timer-set time.

Playback
❶ Connection for playback is the same as that for recording.
❷ Turn on the tape deck and insert the recorded tape.
❸ Set the receiver controls for reproduction.
❹ Set the timer for the desired time.
❺ Set the tape deck TIMER switch to ON.
❻ Press and lock the forward button. The tape deck is now ready for automatic start of playback at the timer-set time.

Notes
● Set the timer so that the tape deck is turned off after the locked buttons are released by the automatic shut-off mechanism at the tape end. For example, if a cassette giving 30 minutes of recording on one side is used on a program beginning at 8 : 00 a.m., the locked buttons will be automatically released at 8 : 30 and therefore the timer should be set to turn off at about 8 : 40 or 8 : 45 to be on the safe side. If the deck is turned off with buttons being locked, the pinch roller may be damaged.
● When not using a timer during recording or playback, do not set the TIMER switch to ON. Otherwise, the tape will stop.

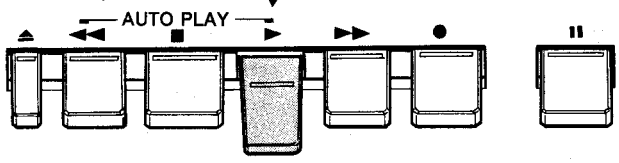
AUTO PLAY

Auto-play is possible right after the tape is rewound to the tape end.
When starting to rewind the tape, hold the rewind button pressed and press the forward button. At end-of-tape only the rewind button is released and the tape is then played back automatically.

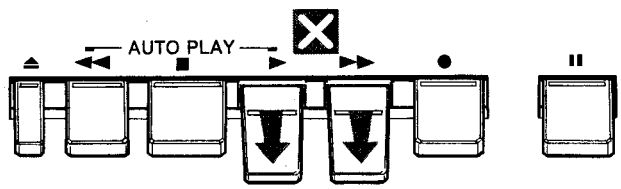


Rewinding starts

When the tape is rewound ..... playback starts automatically.

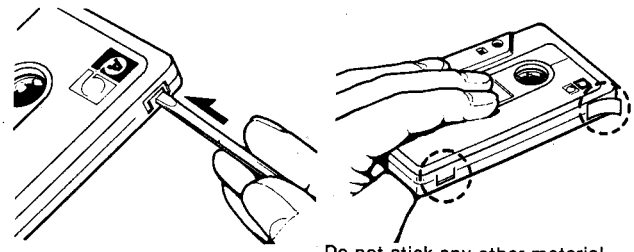


Note
Never press the forward button and the fast-forward button simultaneously, as this may damage the tape.



NOTES ON CASSETTES

To protect recording from accidental erasure
Remove the tab as illustrated so that the record button cannot be pressed. To record on a cassette whose tabs have been removed simply cover the slot with plastic tape.



To protect side A recording

Do not stick any other material except on the portion marked.

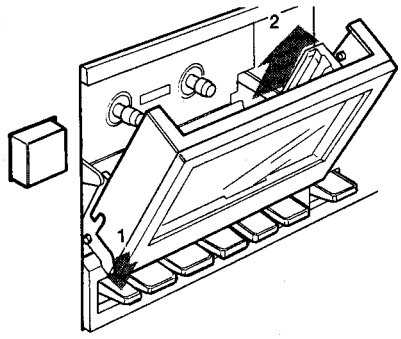
Cassette care
- Avoid touching the tape surface of a cassette, as any dirt or dus may cause contamination of the heads.
- Do not stick thick paper or tape into the cassette, as this may af fect proper cassette alignment and prevent proper tape contac with the head.
- Protect cassettes from dust by storing them in their cases. Evei minor dirt or dust could cause contamination of the heads resultin in noise and sound drop-outs.
- Keep cassettes away from magnetic equipment such a speakers, amplifiers, etc., as erasure or distortion on your recorde tape could occur.
- Do not expose a cassette to direct sunlight, extremely col temperature or moisture.
- Avoid fast-winding just before storing a cassette tape, as thi may cause stretching of the tape edge if the cassette is left unuse over a period of time.

Which cassette to use
This unit is preadjusted at the factory using the Sony FeC Cassette, the Sony CD-α Cassette and the Sony BHI Cassette. All commercially available cassettes perform well witl this unit. However, for optimum recording and playback results we recommend Sony cassettes.
The letter A on the Sony cassette is embossed to help yo distinguish that side of the cassette in a dimly lighted area.

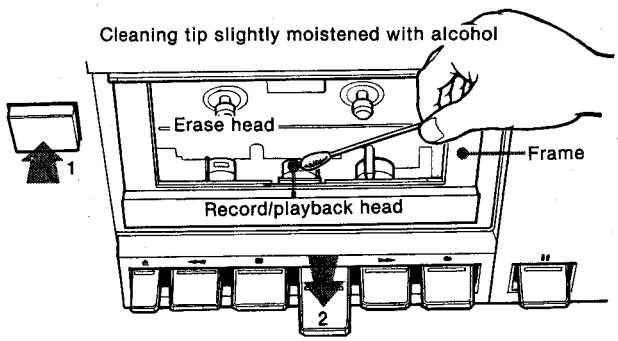
MAINTENANCE

Cleaning of heads and tape path
Generally, cleaning after every 10 hours of operation will be sufficient. However, for the highest quality recordings, clean all surfaces over which the tape travels prior to every recording.

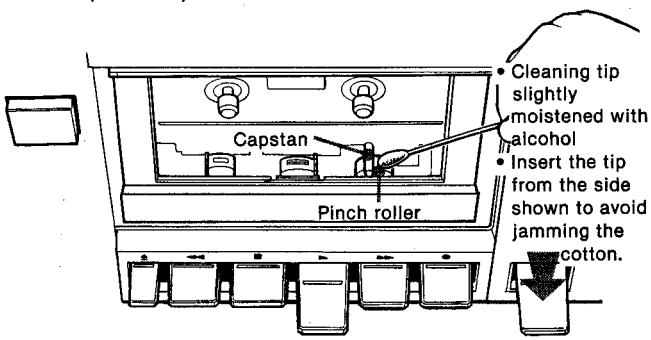
❶ Press the eject button to open the cassette holder and remove the lid.



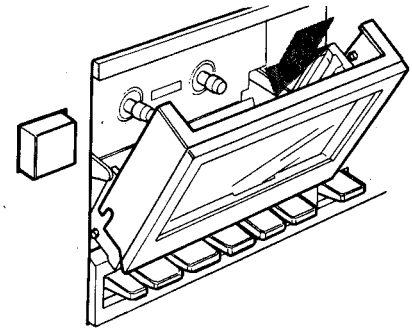
❷ Push the frame in.
❸ Set the POWER switch to ON. Press the forward button and wipe the heads.



❹ Wipe the pinch roller as illustrated. Then press the pause button and wipe the capstan.


• Cleaning tip slightly moistened with alcohol
• Insert the tip from the side shown to avoid jamming the cotton.
Capstan
Pinch roller

❺ When the cleaning is finished, press the pause button and then the stop button.
❻ Press the eject button to open the frame, and replace the lid.



● After cleaning the heads and tape path, do not insert a cassette until the cleaning fluid has dried completely.

Demagnetizing heads
Residual magnetism will gradually build up on the heads through continuous use and cause erasure of high frequencies and hiss build-up. The heads and metallic parts of the tape path should be demagnetized after 20 to 30 hours of operation with the use of a commercially available head demagnetizer.
Be sure the unit is turned off while demagnetizing the heads and tape path.

Cleaning the cabinet
Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

Inside check
Consult your nearest Sony service facility to maintain optimum performance.

SPECIFICATIONS

Power requirements	Type 1: 220 V ac ~, 50/60 Hz (or 240 V ac by internal rewiring) Type 2: 240 V ac ~, 50/60 Hz (or 220 V ac by internal rewiring) Type 3: 110, 120, 220, or 240 V ac ~, 50/60 Hz
Power consumption	16 W
Fast-forward and rewind time	Approx. 90 sec. (with C-60)
Recording system	4-track 2-channel stereo
Bias frequency	105 kHz
Signal-to-noise ratio	DOLBY NR OFF • With TYPE III cassette (Sony FeCr) 56 dB at peak level (NAB) 55 dB (DIN, 1975 rev.) • With TYPE II cassette (Sony CD-α) 54 dB at peak level (NAB) DOLBY NR ON Improved by 5 dB at 1 kHz, 10 dB above 5 kHz
Total harmonic distortion	1.7% (with Sony FeCr cassette)
Frequency response	DOLBY NR OFF • With TYPE III cassette (Sony FeCr) 30 - 15,000 Hz 50 - 13,000 Hz (±3 dB) 50 - 13,000 Hz (DIN) • With TYPE II cassette (Sony CD-α) 30 - 15,000 Hz 50 - 13,000 Hz (±3 dB) 50 - 13,000 Hz (DIN) • With TYPE I cassette (Sony BHF) 30 - 13,000 Hz
Wow and flutter	0.05% WRMS (NAB) ±0.14% (DIN)
Inputs	Microphone inputs (phone jacks) ..... 2 sensitivity 0.25 mV (−70 dB) for a low-impedance microphone Line inputs (phono plugs) ..... 2 sensitivity 77.5 mV (−20 dB) input impedance 50 k ohms
Outputs	Line outputs (phono plugs) ..... 2 output level 0.435 V (−5 dB) at load impedance 50 k ohms suitable load impedance more than 10 k ohms Headphone output ..... 1 output level −26 dB at load impedance 8 ohms
Dimensions	Approx. 430 × 130 × 290 mm (w/h/d) (17 × 5 1/8 × 11 1/2 inches) including projecting parts and controls
Weight	Approx. 5.4 kg (11 lbs 15 oz)
Supplied accessory	Head cleaning tips ..... 1 set

LED peak program meters

Response range	−40 dB to +5 dB
Response time	1 millisecond
Decay time (from 0 dB to −20 dB)	750 milliseconds
Overshoot	None
Indicator elements	16 elements for each channel

While the information given is correct at the time of printing, small production changes in the course of our company's policy of improvement through research and design might not necessarily be indicated in the specifications. We ask you to check with your appointed Sony dealer if clarification on any point is required.

Note

Appliance conforms with EEC Directive 76/889 regarding interference suppression.

TROUBLE CHECKS

The following checks will assist in the correction of most problems which you may encounter with your unit.
Before going through the check list below, first pay attention to the following fundamental points.
- The power cord must be connected firmly.
- Connection to the amplifier must also be firm.
- Heads, capstan and pinch roller should be cleaned.
- The amplifier controls and switches should be set correctly.

FUNCTION BUTTONS AND TAPE PATH

The record button cannot be pressed.
- No cassette in the cassette holder.
- The tab is removed from the cassette. See page 10.

The record button or the forward button cannot be pressed.
- The cassette holder is not fully closed.

The eject button cannot be pressed.
- This button is inoperative in recording and playback modes.

The automatic shut-off mechanism activates just after pressing the forward button.
- The tape is completely wound onto the right reel.

Tape does not move even when the forward button is pressed.
- The pause button is pressed.

The automatic shut-off mechanism activates before the end-of-tape.
- The tape is slack.
- This situation may also be caused by the cassette used.

Tape running noise is loud in rewind or fast-forward mode.
- This situation depends upon the cassette used and not a problem.

RECORDING OR PLAYBACK

Recording or playback cannot be made or there is a decrease in sound level.
- Dirty heads. See page 11.
- Magnetic contamination or build-up on the record/playback head. See page 11.
- Improper connection.
- Improper setting of the amplifier controls.

Excessive wow or flutter or drop-out
- Contamination of the capstan or pinch roller. See page 11.

Insufficient erasure
- Magnetic contamination of the erase head. See page 11.

Increase of noise or erasure of high frequencies
- Magnetic build-up on the head. See page 11.

Unbalanced tone in higher frequencies
- Improper setting of the DOLBY NR switch. If recorded with the switch set to ON, play back with it at ON. If recorded with it set to OFF, play back with it at OFF.
- Improper setting of the Tape select switch. See page 8. If recorded in the wrong position, adjust the tone of the amplifier in playback.

HOWLING OR HUM NOISE

Oscillation occurs when trying to record from microphones.
- The microphone is too near the speaker. Keep the microphone away from the speaker or reduce the amplifier volume.

Hum noise
- The tape deck is stacked just on or below the amplifier.

Should any problem persist after you have made these checks, consult your nearest Sony service facility.